GENTIANA AUSTROMONTANA, A NEW SPECIES FROM THE SOUTHERN APPALACHIANS[1]

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Gentiana austromontana Pringle & Sharp, sp. nov.

A *Gentiana clausa* calycibus caulibusque puberulis, apicibus corollarum clausarum subacutis, lobis corollarum angustioribus, et segmentibus appendicium corollarum triangulis differt.[2]

Type: *Pringle et al. 29372*, in grass just below "Gardens," Roan Mountain, Mitchell County, North Carolina (TENN; isotypes Herb. Royal Bot. Gard. Hamilton, ARIZ, DAO, GH, NCU, NY, US).

Higher elevations, especially in grassy balds, in the Blue Ridge Mountains, Virginia, West Virginia, North Carolina, and Tennessee.

Additional specimens examined:

NORTH CAROLINA: Allegheny: *Fox & Godfrey 2024* (KANU). Ashe: *Ashe 798* (NCU). Avery: *Steele 222* (GH, US); *Steele 259* (CAN); *Leonard & Leonard 16503* (US); *Blomquist 10483* (DUKE). Buncombe: *Standley & Bollman 10382* (US); *Sargent 7391* (SMU, WIS). McDowell: *Trapido 3688* (MIN, NY). Mitchell: *Merriam*, 9 Sept. 1892 (US); *Cannon 244* (NY); *Pringle 22007*, (Herb. Royal Bot. Gard. Hamilton, MTJB, SAP, WIS). Transylvania: *Alexander et al.*, 11 Oct. 1933 (NY). Watauga: *Ahles & Duke 49396* (NCU). Yancey: *Mark*, 8 Aug. 1956 (DUKE); *Ahles & Duke 50708* (NCU). TENNESSEE: *James*, 4 Oct. 1955 (TENN). Unicoi: *Woods & Woods 16529* (TENN).

VIRGINIA: Bedford: *Murrill* 24-27 Oct. 1916 (NY). Giles: *Iltis 302* (SMU). Roanoke: *Wood 5699* (GH). Washington: *Cronquist 4122* (NY). WEST VIRGINIA: Mercer: *Dickinson* 15 Sept. 1950 (WVA). Raleigh: *Utterback 236* (WVA).

Gentiana austromontana appears to be most closely related to *G. clausa* Raf., from which it differs most conspicuously in its less ventricose corollas, which taper to more

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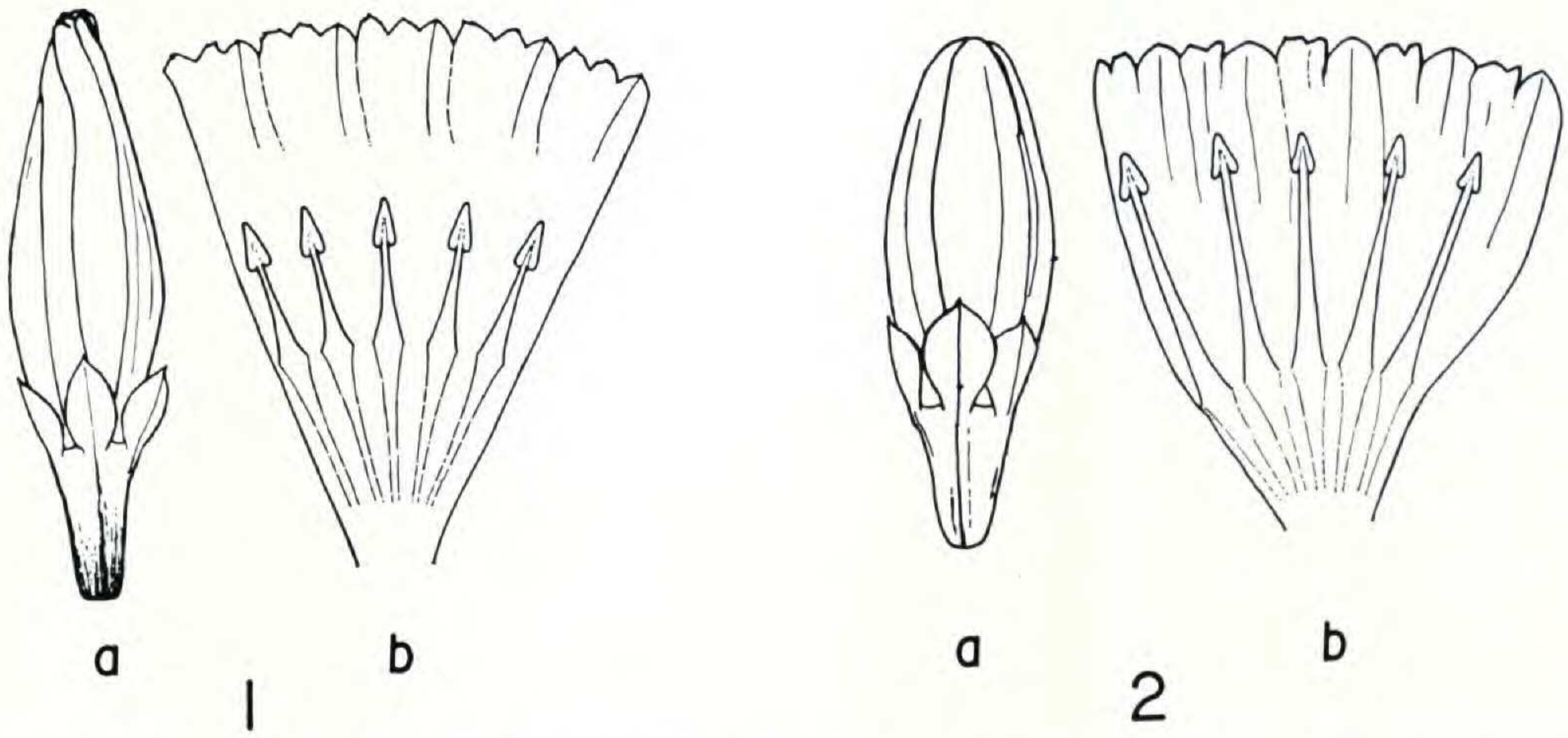
[2]We wish to express our appreciation to Dr. A. H. Moser of the Department of Classical Languages, University of Tennessee, for checking our Latin description.



FIGS. 1 and 2. Intact flowers (a) and corollas, slit longitudinally and flattened (b), × 1. Connate anthers have become separated in pressing. FIG. 1. *Gentiana austromontana* Pringle & Sharp. FIG. 2. *G. clausa* Raf.

acute summits. It differs also in its puberulent stems and calyx lobes; in its triangular corolla lobes, which are narrower and more acute; and in the shape of the free portions of the appendages of its corollas, which are divided into two nearly equal, triangular segments. The calyx lobes of *G. austromontana* are lance-ovate to elliptical, while those of *G. clausa* are obovate to nearly orbicular, and often larger. The filaments of *G. austromontana* become free from the corolla tube proportionately slightly higher than those of *G. clausa*, and their free portions are shorter, extending only about halfway from the level of their attachment to the summit of the corolla, while those of *G. clausa* extend two-thirds of this distance or more.

An affinity with *G. decora* Pollard is also indicated, but the corollas of the latter species are open or nearly so, with much larger lobes. Usually the flowers of *G. austromontana* are much more deeply colored than those of *G. decora*.

G. austromontana resembles *G. andrewsii* Griseb. in having closed corollas with the appendages visible at the summit, and has sometimes been mistaken for it. It differs from *G. andrewsii* in its puberulence, in its proportionately larger corolla lobes, and in the lower, triangular segments of the free portions of its corolla appendages.

G. austromontana may have evolved from a common ancestor along with *G. clausa*, *G. decora*, and other related species, or it may have arisen following the hybridization of *G. clausa* and *G. decora*, which are sympatric only in the limited area where this species is found. It appears to be a relatively stable component of the southeastern flora, occurring in some remarkably uniform populations.

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SOLIDAGO RUPESTRIS AND S. CANADENSIS— *Solidago rupestris* of Rafinesque (1820) has, at best, been considered as a "weak" species, closely related to *S. canadensis*, by many students of the genus. Others have reduced it to the status of a variety of *S. canadensis* or simply rejected it . There is no doubt that this usually glabrous plant looks much like *S. canadensis*. Moreover, the two have the same chromosome number, i.e., a somatic number of 18 (Beaudry, 1963). Nevertheless, *S. rupestris* can be separated easily from *S. canadensis* by means of its basal and lower cauline leaves, which are broadest above the middle in the first but broadest at the middle in the second (these leaves are absent in most specimens at the time of flowering), and also by means of the involucre size and the phyllary shape. These characters have not been mentioned in Rafinesque's original description, who, strangely enough, related his species not to *S. canadensis* but to "*S. odora.*" The shape of the lower leaves has been taken into account by Small (1903) but not considered by all later authors, and the characters of the head have never been pointed out, as far as I know.

The head of *Solidago rupestris* is larger than that of *S. canadensis* var. *canadensis*. Measurements made on the length of the involucres of 9 specimens of the first, range from 2.8 to 4.3 mm., with a general average of 3.6 mm., while those obtained on 8 specimens of the second range